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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/469,070	12/21/1999	HANNA E. WITZGALL	TI-23879	4488

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EXAMINER

ABDULSELAM, ABBAS L

ART UNIT PAPER NUMBER

2674

DATE MAILED: 05/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/469,070

Applicant(s)
Witzgall

Examiner
Abbas Abdulsalam

Group Art Unit
2674



☒ Responsive to communication(s) filed on Feb 4, 2002

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-10 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-10 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 02/04/02 have been fully considered but they are not persuasive.

Applicant argues that Negishi et al. (USPN 5486878) does not teach "a color modulator comprised of a stack of at least two dielectric layers and at least three transparent electrodes." Applicant also argues that Negishi does not teach voltages applied to electrodes such that they are used to filter a white beam into a light beam of one of three primary colors. Applicant further argues that Negishi does not disclose altering electrical signals affecting dielectric layers such that a primary color beam of light alternates between three primary colors. However, Negishi teaches three sorts of light beams (three primary colors) emitted are focused on three spacial light modulation elements. Negishi teaches polarizing light beam splitter (PBS) and a three color resolving optical system which are used to obtain optical information from the three spatial light modulation elements. See col. 1, lines 29-52. Furthermore, Negishi teaches that spatial light modulation elements are partly formed from light modulation substance layer (PML). The PML in turn is formed of light modulating substance by which light status can be changed according to the strength of electric field. See col. 2, lines 10-28. In addition, Negishi teaches that the intensities of the three light beams can be modulated and further teaches those intensities with respect to pre-determined voltage of the voltage source, E applied to electrodes. See col. 1, lines 57-65 and col. 2, lines 56-62. It would have been obvious to one skilled in the art that variations of the strength

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of electric field as well as intensity modulations of the three light beams can be used to alter electrical signals, filter and manipulate signals with respect to the three primary colors.

Claim Rejections 35 U.S.C. 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Negishi et al. (USPN 5486878).

Regarding claims 1, 7 and 10, Negishi teaches about a color display system with a light source (LS), and spatial light modulation (SLM1, SLM2) passing through respective optical paths. See column 14, lines 13-28. Negishi teaches a dielectric mirror, and the application of a voltage between a light modulation layers through two transparent electrodes (Et1, Et2) which would produce a change that is expressed in wavelength. See column 30, lines 37-67, and Fig 36. Furthermore, Negishi teaches about a signal processing circuit (2) outputting a control signal which in turn is related to a drive circuit that is responsible for color switching and selecting operations. See column 30, lines 14-23 and Fig 36. Furthermore, Negishi transparent substrate (BP1, BP2) along with transparent electrodes. Negishi teaches a mixture of light to a substrate (BP2) side of the spacial light modulation element SLM.beta through the color resolving filter

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Fdf. See column 44, lines 20-30 and Fig 23-26. In addition, the primary colors emitted from three regions (red, green, blue) are focused on three spacial light modulation. See Fig 2. However, Negishi does not specifically mention the projection optics on the light path operable to focus light from spatial light modulator on an image plane. Negishi on the hand teaches about lights outgoing from the spatial light modulation elements (SLM1, SLM2, SLM3) and are projected on the screen S as a color image by way of the dot-dot-dashed line arrows. Column 22, lines 17-31.

Therefore it would have been obvious to one having skill in the art at the time the invention was made to utilize Negishi's projected elements (SLM1, SLM2, SLM3) for the purpose projection optics on the light path. One would have been motivated in view of the suggestion in Negishi that the projection of elements (SLM1, SLM2, SLM3) serve the desired projection optics on the light path that is operable to focus light.

Regarding claim 4, it has been discussed above.

Regarding claims 2 and 3, Negishi teaches dichroic prism (DF) which is used to synthesize two light beams. See Fig 47.

Regarding claim 5, Negishi teach spatial light modulation element, SLM with respect to a nature of dialectic mirror. Column 3, lines 7-17.

Regarding claim 6, Negishi teaches color section method in terms of liquid crystal layer. See column 30, lines 25-33.

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Regarding claims 8-9, Negeshi teaches that electro-optic crystals such as Lithiumniobate, BSO, PLZT etc. as well as high molecular-liquid crystal composite film can be used for modulation purposes See column 2, lines 40-44.

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Abbas Abdulsalam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe** can be reached at **(703) 305-4709**.

Any response to this actions should be mailed to :

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to

(703) 872-9314

Hand-delivered responses should be brought to Crystal park II, Crystal Drive, Arlington, VA Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Abbas Abdulsalam

Examiner

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RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600